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Fostering Enterprise Innovation:
Exploring Further the Leadership of Innovation

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May 2010

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IBSA wishes to acknowledge the work of Professor Victor J Callan and Sarah Esposito of The University of Queensland Business School who have undertaken the research to follow up the outcomes of IBSA's Enterprise Innovation Summit and have prepared this report.

For further information about this report or any other work being undertaken by Innovation & Business Skills Australia Ltd, please visit www.ibsa.org.au.

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Fostering Enterprise Innovation

Foreword



In response to the need to continue to lift innovation practices in Australian enterprises, Innovation and Business Skills Australia (IBSA) in June 2009 held an Enterprise Innovation Summit at Parliament House in Canberra. The starting premise was that a compelling case exists for how engagement in enterprise innovation increases national productivity, prosperity and social well-being. The Summit focused more on the development of a new agenda to improve the leadership and management of Australian enterprises, and the skills of our workforce more broadly, to increase Australia's capacity and capability for continued innovation. As noted in the IBSA report from the Summit, further discussion was needed to examine how leadership, management and culture within organisations contribute to building innovation and productivity.

In developing this new agenda around leadership and management in more detail, IBSA undertook to explore further four key ideas that emerged from the Summit participants around:

1. Examining the interconnectedness between leadership, innovation, skills formation and productivity in the workplace
2. Developing a better understanding of innovation, risk and entrepreneurship as experienced by startup firms
3. Undertaking research to better understand the experiences of young Australian entrepreneurs
4. Investigating further the concept of a National Industry Charter for Innovation and Leadership.

In line with this 'follow-up' agenda, we are pleased to present the current report which explores the leadership of innovation by looking at past Australian and international research, and also by incorporating into these findings the views of a wide range of younger and more experienced Australian entrepreneurs, business figures and other observers of the innovation journey in Australia. We reiterate the importance of Australia's government and enterprise leaders being serious about encouraging innovation as the underpinning for future national prosperity.

A handwritten signature in black ink, appearing to read 'John Vines', with a horizontal line underneath.

John Vines

IBSA Chair, May 2010

Introduction

Our national innovation system

In response to *Venturous Australia: A Review of the National Innovation System*, the Australian Government has increased the national budget for science and innovation from \$6.88 billion in 2008-2009 to \$8.25 billion in 2009-10 — a 25% rise in funding. Driving such investment is substantial evidence that an innovation economy provides a better future. Innovation economies have more engaged workforces and more productive organisations with more skilled and capable people.

To guide its own thinking in this area, IBSA has defined innovation as the conscious exploitation of ideas leading to a new or modified product, process or service which adds economic and/or social value. Innovation therefore is about the intentional introduction and application of new ideas, processes, products or procedures into a job role, team or organisation, where their adoption significantly benefits the individuals, the teams, the organisation or wider society.

A key focus of this report is upon the role of leaders in driving innovation. As will be highlighted, leaders at all levels in our organisations are key drivers in planning and delivering the transformation that emerges around innovation. Australian organisations require leadership that encourages, recognises, and rewards creativity and innovation at all levels in the enterprise. In addition, leaders are central in promoting and sustaining organisational cultures that embrace diversity, tolerance, talent and technology. While management is about maintaining the status quo, leadership is about change and transformation.

This report is divided into two sections:

Section 1 reviews the links between leadership, culture, capability and collaboration in driving innovation in enterprises. It highlights the key role of business leaders, Governments and service providers in driving Australia's innovation agenda. It also reviews current innovation initiatives provided by Governments and various service providers and examines how current programs and initiatives address these core enablers of innovation — culture, capability and collaboration. Practical strategies on leadership and capability development are also provided.

Section 2 reviews innovation in emerging enterprises and the special issues faced by startups. It looks at the nature of entrepreneurs, the risks they face and strategies to promote more entrepreneurship in Australia.

Methodology

Our strategy in preparing this report was two-fold: the first was a targeted review of the literature to establish the links between leadership, culture, capability and collaboration in driving innovation. We consulted past research to identify the special issues faced by new entrepreneurs and emerging enterprises, including the types of risks they experience in the early stages of their new venture.

The second approach we took was to talk to a number of business leaders and entrepreneurs across Australia to investigate their startup experiences, their thoughts on innovation, risk, entrepreneurship and on ways to improve innovation in Australia. Business leaders and entrepreneurs were selected based upon evidence of their contributions toward driving innovation in their business and in the wider community; write-ups of their achievements around innovation; and through nomination by IBSA and other business leaders. We conducted focused interviews with twenty-six entrepreneurs and business leaders either face-to-face or by phone during March to May 2010. Interviews ranged from 20 to 60 minutes in length.

The following is a list of those interviewed:

- Bruce Bilotto, Managing Director, Memcor Australia
- Howard Buckley, Chief Executive Officer, Sungrid Limited
- Doron Ben-Meir, Chief Executive Officer, Commercialisation Australia, Department of Innovation, Industry, Science and Research
- Captain David Coates, Adjunct Professor, Griffith University
- Geoff Fary, Assistant Secretary, ACTU
- Dr Alan Finkel, Chief Technological Officer, Better Place Australia
- Professor John Foster, School of Economics, The University of Queensland and Member of the Cutler Review of the National Innovation System
- Trevor Glen, Chief Executive Officer and Co-Founder of Sarugo (and Memory Box)
- Stewart Gow, Manager, Venture Capital Invest Queensland
- Deryck Graham, Executive Director, Quickstep Technologies
- Hugh Guthrie, Principal Research Consultant, National Centre for Vocational Education Research
- Lusia Guthrie, Chief Executive Office and Managing Director, LBT Innovations
- Jaegopal Hutapea, Angel Investor, and Founder of World Energy Storage Technology
- Narelle Kennedy, Chief Executive Officer, Australian Business Foundation and Member of the Cutler Review of the National Innovation System
- David Kitchen, Chief Executive Officer and Founder of Brewers Choice
- Yazz Krishna, Chief Executive Officer, Five Faces
- Hugo Le Messurier, Managing Director, LeMessurier Solutions
- John Mactaggart, World Angel Investor and Director of Technology One
- Andrew McGrath, Chief Executive Officer and Founder of McSoft T/A Workslink
- Hew McDonald, Operations Manager and Founder of Evolving Workshop Technologies
- Allan McPherson, Managing Director, McPherson Group
- Lynette Mayne, Executive Chair, Work Wear World
- Nev Power, Chief Executive Officer of Australian Operations, Thiess
- Steve Vamos, Founding President of the Society for Knowledge Economics
- Bob Waldie, Chief Executive Officer, Opengear
- Peter Westfield, Co-Chair, Australian Innovation Festival and Director, Adair Communications
- Nicholas Wilkinson, Managing Director and Chief Executive Officer of Keystone Medical
- Dr David Wyatt, Non-Executive Director, Papyrus Australia Limited.

Section 1:

Leadership and innovation

The consensus at the Enterprise Innovation Summit was that there is already a case for greater engagement in enterprise innovation to increase our national productivity. However, a major next step is to foster innovation capacity and capability by developing a new agenda around leadership and management in Australian enterprises. As noted by the Society for Knowledge Economics and others, we need leaders across our economy with the strategic and operational capabilities to build work cultures that encourage more workplace innovation¹.

To this end, the next section brings together the findings of national and international research into leadership and innovation. It points out that leaders must play a key role in driving Australia's innovation agenda through their focus on three core activities:

- Building culture
- Building capability
- Modelling and supporting collaboration.

Leaders influence innovation but.....

Innovative nations survive and thrive more than less innovative nations. Continued innovation in organisations is a key part of their longer term survival². However, few reports have examined the precursors of longer-term innovation, especially how the attitudes and behaviours of leaders determine better outcomes around increased levels of innovation³. Those reports that have examined the links between leadership and innovation reveal that the links are complex, and mediated by a range of factors⁴.

Empirical studies reveal four sets of leadership skills and abilities that positively influence the success rates in organisations in implementing change and in driving innovation⁵:

1. Ability to coach – the leaders inspire others to be at their best and to establish supportive partnerships with employees that make them feel engaged and empowered
2. Ability to reward – leaders of innovation know that rewards need to be flexible and gradual, valuing small contributions, milestones and incremental change
3. Ability to involve and support others – leaders of innovation connect with their employees, soliciting feedback and offering high levels of support that facilitates employees' involvement and commitment which is critical to successful innovation and change
4. Ability to promote teamwork and collaboration – leaders view innovation as a collective endeavour that is about creating cultures and systems that sustain innovation.

¹ Society for Knowledge Economics, 2008, 2009; Dodgson et al., 2008

² Damanpour & Schneider, 2006

³ Bass & Riggio, 2006

⁴ Eisenbeiss et al., 2008; Avolio, Zhu, Koh, & Bhatia, 2004

⁵ Bel, 2010

Given these capabilities, what is the most effective style of leadership around promoting innovation? Transformational leadership is the most effective style overall⁶. Organisations that have more transformational leaders across all levels are more likely to be consistently high-performing. More transformational leaders provide the intellectual stimulation and collective vision that fosters both the creativity and productive team work necessary for innovation. More transformational leaders encourage followers to challenge existing assumptions, to reframe problems, and to approach old situations in new ways. By providing a vision for the team and the organisation, these leaders promote greater levels of challenge and meaning around the work being completed.

By encouraging new ways of looking at problems and by modelling less conventional ways to solve problems at work, transformational leaders encourage their team members to value attempts around previously untested ways to solve problems⁷. In support of these research findings, Dr Alan Finkel of Better Place Australia believes that effective leaders of innovation identify and set challenges, and they know that intelligent people will always respond to challenges. They also lead by example, modelling creative and unconventional behaviours that may stimulate innovation.

Whereas non-transformational (i.e., transactional) leadership is focused on maintaining the status quo and fostering continued performance on well-defined tasks, transformational leadership highlights the necessity for change and constant evolution to business operations and culture. Howard Buckley, the CEO of the dynamic and growing new business Sungrid, talks about the importance of leaders building a culture of innovation and aspiration. He believes that the right choice of leader has been critical to the success of this WA solar energy startup company in being clearer about what the firm is good at, and where it can maintain its competitive edge.

Deryck Graham is a founding Executive Director of Quickstep Technologies that began as a startup in Perth in 2001. The initial Quickstep process was developed out of the family's garage. Today this business is a listed company that offers composite materials engineering and manufacturing for the aerospace and defence industries in Australia, together with Centres of Excellence in Germany, the UK and USA. He highlights the significance of the partnership between transformational leadership and innovative technology:

"No matter how clever is your technology, the investment public will bet on the quality of the leadership in your business. It is this judgement about your technology and the leadership of the firm that they will weigh up in believing that you can generate a return to shareholders. The right leadership and management are required at different stages in the growth of the business. In our case, we have hired different types of CEOs with different capabilities at different stages of the growth of the company."

In summary, there is a large body of research evidence into transformational leaders. They inspire individual creativity and innovation at the team level. In turn, the actions of these teams make more innovative

⁶ Elkins & Keller, 2003 Bass & Riggio, 2006; Eisenbeiss et al., 2008 Hülshager et al., 2009

⁷ Liao & Chuang, 2007; Garcia-Morales, Llorens-Montes & Verdu-Jover, 2008; Bass & Riggio, 2006

organisations. At the same time, some studies do not show a consistent relationship between transformational leadership and innovation⁸.

However, one explanation for this finding is the role of other factors that mediate the relationship between leadership and the outcomes around innovation (see Figure 1). These factors are now discussed, and include business culture, employee capability and levels of collaboration.

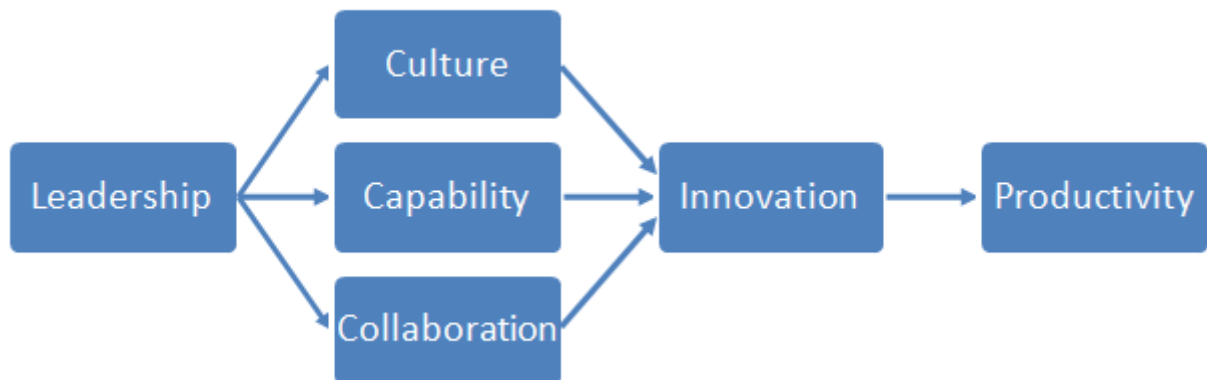


Figure 1. Leaders promote innovation and higher productivity through building culture, capability and collaboration

The following sections examine in more detail how leaders of innovation:

- Promote culture
- Build capability
- Support and inspire collaboration.

Leaders of innovation promote the right culture

Following Figure 1, we now focus upon how leaders of innovation build cultures that:

- Support learning
- Have strong shared goals
- Tolerate failure
- Reward innovation.

Support learning

Organisational leaders play a key role in shaping an internal culture conducive to innovation — a culture that encourages learning, tolerates failure, and supports its innovators⁹. Innovation leaders take steps to build cultures which promote and sustain learning¹⁰. There is solid evidence around the links between getting the right culture and climate in organisations, and getting higher levels of innovation. Studies of R & D units, for instance,

⁸ Eisenbeiss et al., 2008; Wilson-Evered, Härtel & Neale, 2001

⁹ Damanpour, 1991

¹⁰ Senge, 1990

reveal that climate and culture emerge as the most important predictors of innovation¹¹. Organisations with cultures promoting challenge and risk taking are more innovative as a whole¹².

Towards promoting this innovative edge, IBSA has provided a checklist for implementing an innovation culture. This list suggests that the use of a more facilitative leadership style encourages and supports employees in thinking more about improvements to products, processes or services¹³.

Lynette Mayne, the former CFO of Lend Lease Corp and current Executive Chair of Work Wear World, a successful boutique provider of uniforms, expands on this issue. She says the following about the role of leaders in building an innovative culture:

“Leadership is a crucial part in making a company successful and unique, so you really need to have the right leadership to create the kind of culture that you need for innovation. Innovation is about companies being able to re-invent themselves all the time, so that means you have to have the right leadership that encourages everyone and have statements that characterise what the company stands for. At Lend Lease, one of the slogans we had was ‘dare to be different’—so encouraging every employee that they can always improve their jobs, and if they do so they will be rewarded accordingly. Having an innovative culture and having everyone believe that they are the innovators in the company is really important.”

We know that innovative organisations prize learning and innovation as a core capability. Significantly, we know that learning cultures create, acquire and transform knowledge, and they are very effective at shaping the behaviours of employees to reflect this new knowledge and the insights provided¹⁴. In fact, a true learning culture:

- promotes innovation by empowering its people
- encourages diversity and collaboration between individuals with diverse backgrounds, as individuals with more diverse backgrounds and experiences challenge established practices and beliefs that actually hinder innovation
- welcomes new entrants and their diverse ideas into existing work groups
- creates continuous learning opportunities for employees, and often with their customers and partners¹⁵.

Support strong shared goals

In innovative workplace cultures, there is support for creativity and innovation, and in particular support for independence in pursuing new ideas. The leaders of teams, as mentioned above, are critical here in promoting these climates and cultures for innovation.

For instance, in a meta-analysis of over 100 independent studies, Hülshager and his research team found that goal interdependence was the most influential team level factor for innovation in the workplace. Team processes

¹¹ Abbey & Dickson, 1983; Scott & Bruce, 1994

¹² Nystrom, 1990

¹³ IBSA, 2008

¹⁴ Nonaka & Takeuchi (1995); Durrance, 1998; Farson & Keyes, 2002

¹⁵ Lam, 2002

showed stronger links with innovation than any other factor¹⁶. This finding underlines the importance of leaders of innovation in setting common team goals, and it is in line with other findings of the important role of supervisors and team leaders in providing the workplace team with clearly stated, shared and visionary goals.

A number of entrepreneurs interviewed noted the value in choosing CEOs with different experiences and skill sets at different stages in the development of startups. However, Dr David Wyatt who is an entrepreneur and business angel warns that buying-in leadership skills at later stages in the growth of the startup business can create culture clashes that reduce the innovative spirit. In particular, when leadership is brought in from outside, he argues that those individuals must be less willing to work in sometimes chaotic cultures. These individuals need to juggle the importance of keeping core cultural values and behaviours but also the need to introduce different values and behaviours that promote the firm's next goals.

Adopt a failure-tolerant leadership style

Risk is an integral part of innovation. Successful innovative organisations use risk constructively to learn¹⁷. In cultures that promote innovation, we are more likely to see attitudes where stumbles on the innovation path are forgiven by leaders. Failure-tolerant leaders help people overcome fear, and in the process, create a culture of intelligent risk-taking which leads to sustained innovation. Moreover, while employee freedom to innovate is important, as suggested earlier, it is the involvement of leaders and managers that produces really creative acts and innovative outcomes in the business.

However, few companies actually know how to deal with the large number of new ideas originating from middle and lower management. Numerous case studies reveal that highly successful companies like Google, Sony, Canon, 3M and Virgin have encouraged employees to put forward ideas that at first might seem to be too outrageous and highly risky.¹⁸ Such initial ideas have little assessment of their costs, risks, time and resources. It is the role of the leaders in these businesses to provide processes that allow employees to scope the innovation further in terms of its risks and costs. These business cases provide more thoughtful and well-researched arguments that outline the potential risks for review at the next stages.

The Royal Dutch Shell Group of companies, another business identified as a world leader in innovation, has found that many of its most worthwhile innovations have come from employees via email. Jack Welch at General Electric used group sessions called workouts that supported the initial idea, but then brought in managerial support for review early in the process to select the best new ideas. To promote his "speak up" culture, it is reputed that at one stage Richard Branson of the Virgin Group allowed every employee to have his phone number.

¹⁶ Hülshager, Anderson, & Salgado, 2009

¹⁷ Denhardt & Denhardt, 2002

¹⁸ Harryson, 1997; Farson & Keyes, 2002

Bob Waldie, Chairman and CEO of Opengear, an innovative developer of next generation console server solutions, stresses the importance of developing a future-oriented business culture that capitalises on new opportunities. As many other entrepreneurs we interviewed noted, he sees the importance of having the end goal as an aim from the start. Reflecting on his startup experiences, Bob Waldie makes it clear to his employees that he does not mind failure, as long as they quickly put a process in place that stops the problem from recurring. In his business culture, failure is a sign that the firm is moving towards where it should be. The Opengear culture also watches for complacency and falling into comfort zones:

"We look for the newest, and best, and freshest way doing things rather than how we did it last time; we do strive actively to innovate. The company is very conscious of falling into the comfort zone of the way things were done before. It is part of our culture to constantly advocate to do things differently."

In contrast to such stories, a number of the entrepreneurs and business leaders interviewed were critical of Australia's efforts to identify and promote our champions of innovation. Our national culture is viewed as not supportive of entrepreneurs and innovators, and this view is backed up by research¹⁹. Some interviewees talked about the need for cultural change. In particular, Australian Governments need to be more accepting that some innovations will be winners, but others will lose money at least in their initial attempts. Some believed that the USA has established the right attitude towards innovators, and did a far better job than Australia in acknowledging its entrepreneurial heroes and heroines.

A number of those interviewed believed that Australia even has a culture of fear around entrepreneurship and around starting up any business. Trevor Glen, Co-Founder and Director of Sarugo, a successful software engineering startup company based in Adelaide, sums it up by stating that:

"The big challenge is for Australia to change that culture. We need to know that it's ok to get out there and give it a go -- even if you don't make it -- you need to give it a go or else you'll never know. We need to make people feel empowered to do that. Innovation should really come from the individuals rather from the bigger businesses -- because that drive that the individual has to take those great ideas and make it into a successful business would be more than anything a big business could do, so we need to foster that seed in startup companies and help them actually become successful."

Reward innovation

Although cultures and the right support from leaders and managers are important, it is people who innovate. Through their cultures, and the actions of their leaders, there are clear signals that innovation is valued, rewarded and critical for the success and growth of the organisation²⁰. How business leaders provide time to innovate is one part of this strategy to reward and support innovators.

A major issue is about providing people with time to innovate. While there are excellent examples of creative ideas that have emerged under extreme time pressures, the best creative outcomes emerge when employees

¹⁹ Karpin Report, 1995

²⁰ Tarry, 2002

are protected by their leaders from such pressures²¹. There are many examples of how leaders set up work cultures where employees have blocks of time, can collaborate with others on an as needs basis, have time to attend conferences, workshops, site visits and to participate in their professional networks. For instance, 3M has instituted the 15% option where employees are encouraged to spend up to 15% of their working week on projects of their own choice, with seed capital being made available to researchers in several ways²². The 3M researcher can apply for seed capital from their business unit manager. If this request is denied, they can take their idea to another business unit within the company, while they seek funds through their internal 3M grants.

Many of the business leaders we interviewed were not at the stage of providing their employees with access to considerable internal funds to explore new ideas. Rather, they gained very good returns around allowing employees the time to attend technical workshops, innovation events and festivals, and to visit universities, suppliers and industry research parks to talk to others about their ideas and challenges.

Conclusions around building innovation cultures

- Transformational leadership is strongly linked to innovation in firms
- Leaders play a pivotal role in shaping organisational culture
- Work culture has a strong influence on levels of innovation and productivity
- Leaders who promote innovation build cultures that are supportive of learning, have strong shared goals, are failure tolerant in their style, and reward innovation and their innovators.

Leaders promote capabilities for innovation

Returning to Figure 1, the focus now moves to how leaders of innovation promote capabilities around innovation. Training and development are key parts of capability development. The decisions made by the leaders of innovation about training and development are essential stepping stones in the capability building process²³.

According to a recent global survey, training and skill development programs are more effective in driving business performance in companies where senior leaders set the training agenda²⁴. As such, leaders of innovation firms have a central role in directing initiatives aimed at building capability for innovation in their work cultures and employees.

The link between capability and innovation was clearly articulated in a project prepared by Australian Industry Group (AiG) and Deloitte Consulting²⁵. Possessing the relevant skills emerged to be core to firms' abilities to engage in innovative practices. Shortage of skills in science, engineering and technology; business and management capabilities and communication and interpersonal skills, all affect a firm's innovative capacity. Leadership and management skills emerged as particularly vital in extracting the business value from ideas, and

²¹ Amabile, Hadley & Kramer, 2002

²² Studt, 2003

²³ Helfat & Petteraf, 2003

²⁴ Gryger, Saar, & Schaar, 2010

²⁵ Australian Industry Group & Deloitte, 2008

in developing and implementing creative ideas and knowledge management strategies. Without this capability, firms did not remain globally competitive.

Skills and up-skilling

The National CEO Study conducted by AiG and Deloitte found that 68% of Australian firms were identified as suffering from skill shortages. This impact was greatest in the construction industry and in small businesses²⁶. Industry leaders who perceive a shortage of skills among employees in their business also perceive a lack of innovation in their business. These findings suggest that policies aimed at lifting the nation's skills base will have positive effects on business innovation in Australia.

It is noteworthy, however, that different sectoral innovations require different human capital²⁷. Human capital is made up not only of technical knowledge, but also of personal skills, and the individual expertise that people develop during their professional life²⁸. For instance, technical skills are the key in enabling successful innovations in manufacturing firms in Finland. However, industry sectors with a high share of highly skilled employees in terms of formal education and work experience engage in above average product innovation—specifically in science-based industries²⁹. Taken together, these findings suggest that strategies aimed at building human capital to lift innovation must tailor initiatives to the needs of specific industry sectors and the type of innovations that they produce.

A national survey on skilling practices across seven industry sectors in Australia revealed that nearly two-thirds of all firms reported using upskilling as an innovation strategy³⁰. However, it was noted that firms need to invest in high quality training in order for upskilling to lead to greater innovation. Other key findings included:

- The greatest barrier to upskilling cited by industry leaders was costs, followed by staff leaving following training, and the lack of government incentives
- More than three-quarters of respondents indicated that they use informal in-house training sessions to introduce new skills to existing workers
- While informal in-house training is the upskilling method most used by Australian firms, formal in-house training is the most highly regarded
- Mentoring is another highly regarded method for upskilling, despite being the fourth most adopted by firms.

It is of some concern that the methods most used by Australian firms to upskill employees (informal in-house training) are not the methods businesses consider most effective (formal in-house training). Corroborating these findings, there is evidence that most companies in the USA use informal on-the-job-training to upskill employees, although this type of informal training is most effective when it is reinforced through formal training³¹

²⁶ Ibid

²⁷ Schneider, Gunther, & Brandenburg, 2010; Leiponen, 2005; Vinding, 2006

²⁸ Foray, 2007

²⁹ Schneider, Gunther, & Brandenburg 2010

³⁰ Australian Industry Group & Deloitte, 2008

³¹ Gryger, Saar, & Schaar, 2010

Skilling leaders on the job

It is well-established that on-the-job learning is the major way that people learn to become better leaders of their business. Table 1 provides a range of workplace strategies that leaders of innovation can consider around building capability. As can be seen, most of these options are applicable to leaders at all levels of the business (i.e. CEOs, team leaders, supervisors), and include considerable variety from challenging assignments, to delegated roles, mentoring and coaching to action learning projects.

Most managers learn about leadership on the job, from observing good and bad role models, and from resolving organisational challenges and personal hardships³². In particular, challenging workplace assignments and projects are well attuned to the business of innovation in that they honour all styles of learning: creative discussion, information gathering, practical instruction and self-discovery. Also the results of the assignments and projects can be presented at a later time to coaches, their executives and partners.

Table 1: Ten options in the workplace for building leadership capability

Learning options	Benefits
1. Trial and error. An effective way to learn about being innovative by being given the chance to try a new skill or activity, in a controlled situation, learning from mistakes. Requires good supervision and the attitude in the business that if you don't make some mistakes, you are not learning.	Provides opportunities to learn about risks around startups and business, and to define what can go wrong, why, and what can be done about it.
2. Challenging assignments. Taking on direct responsibility for an innovation or new project.	Provides an opportunity to learn and to develop special expertise around project management skills or knowledge. The new leader needs to be supported as they take on this special project, with access to advice and possibly additional training.
3. Reviewing successes. Helpful in analysing and planning for future success. This can be done individually or ideally, with the full team involved in the project.	Provides an opportunity for leaders to share their knowledge and experience with each other. Allows for new leaders of innovation to emerge. Helpful in identifying new innovations that might be taken onto other work to save cost and time.
4. Appropriate delegation. Delegation provides an efficient use of resources, increases multi-skilling and ensures smooth handovers. It also builds more empowered cultures that can support employees taking the initiative around new ideas to improve productivity.	Makes those given the responsibility build skills around setting boundaries, asking for feedback and determine what support is required. This may be linked with secondment and job rotation that encourages employees to recognise the new skills that they will acquire if they are to stay with the business for the longer term.
5. Mentoring. A mentor provides a source of feedback and general support. They are a 'trusted advisor' or 'career friend'. It is important that they both support and challenge the leader of innovation to get effective learning. They should have business experience, but not necessarily around entrepreneurship and startups.	Provides a way of sharing expertise and experience within the business, assists in career development, provides an opportunity for both parties to reflect on work practices. Many entrepreneurial companies choose to use outside mentors, but internal mentors are a good option if these individuals are carefully selected and trained in the role.
6. Coaching. A more experienced business person and entrepreneur who acts as 'coach' encouraging the development of specific new skills or knowledge. Coaching in startups for example can be a team leader, supervisor or manager level.	Assists new or less experienced leaders to learn quickly. A good coach asks questions that encourage and challenge the learner to think about their skills, behaviours and careers in the industry.

³² MCall et al., 1988

Learning options	Benefits
7 Observation, shadowing and visits. Learning from watching other leaders in action such as watching others performing specific tasks, contributing to team projects, visiting projects being completed by the business at various sites.	A useful tool to look for new innovations and best practice methods for the delivery of innovation projects. Also gives an opportunity to evaluate how business practices might evolve or change.
8. Networking. Allows leaders to meet other people formally or informally to grow their business networks inside or outside the company. Networks help to grow the number and variety of people that leaders feel that they can approach to get things done or to overcome roadblocks around projects.	The benefits are around helping leaders to gain access to new information and support that they might need to help with their current roles or more generally their careers in the industry.
9. Action learning groups. Groups of 5 or 6 people work on a project or problem identified by the business, but the issue is new or outside the day to day expertise of members of the group. Often involves setting up personal and group contracts and it is used for personal and group development.	Many businesses use action learning projects to develop the expertise and confidence of newer or high potential leaders. The outcomes can be considerable around innovations, initiatives around improved production, and new products and services to trial.
10. Workshops, discussion groups and communities of practice. Where groups of leaders explore issues together, drawing on real life experiences. These are used as a focus for information sharing. This can be formal or informal and focus on one area or select different topics for each meeting.	These groups can be used as a means of sharing knowledge gained through networking, conferences, and workplace innovations.

The Centre for Creative Leadership in the USA provides an Innovative Leader program that adopts an action-learning approach wherein, before attending the program, participants are asked to think about a challenge they are struggling with, and create a short video³³. The challenge requires an innovative solution. Participants present this challenge to their fellow participants on the first day of the program. This challenge is reworked and reframed throughout the program in order to gain clarity about how a new approach will lead to better products, services, and processes. An overview of the training agenda is outlined below:

Day 1: A New Approach to Business Innovation

- Create connections with fellow participants and share challenges you are experiencing related to innovation
- Understand innovative thinking versus business thinking
- Learn how to reframe your challenges
- Experiment with innovation processes that will lead to ideal customer experiences.

Day 2: Applying Innovation Leadership to Organisational Challenges

- Understand how to quickly assess the climate for innovation
- Learn leadership practices that will help move innovation initiatives forward
- Develop a plan for how you will encourage innovation in your team when you return to work.

Although studies highlight the importance of building capability in new enterprises, many of the entrepreneurs interviewed reported that their company did not have the resources to invest in formal in-house training. Howard Buckley of Sungrid puts it as follows: *“Training is often seen to be irrelevant for the startup; it has to be assumed that you do not have the time to train-up your employees. In reality though, you need to.”*

³³ Centre for Creative Leadership <http://www.ccl.org/leadership/programs/ILWAgenda.aspx?pageId=3062>

Nick Wilkinson, CEO and Director of Keystone Medical, a successful startup company specialising in the development and commercialisation of cutting-edge medical devices, acknowledged that training takes up valuable time and money. As a result, Keystone prefers to hire people who already have the capability to do the job rather than taking someone off the shelf and training them to get to where they want them to be. Deryck Graham at Quickstep Technologies relates how they have sourced people from across the world due to the high levels of technical expertise required to continue to provide advanced composite manufacturing solutions that allows them to stay competitive.

Of those entrepreneurial companies who did engage in some form of training, the predominant form of training was informal. Andrew McGrath, Founder and CEO of Workslink, a startup company delivering information management solutions for the construction industry asserts that: *"capability comes as part of doing the actual job so there is no actual need for skills training in terms of actual formal training. It's just learn-it-as-you-go."*

Similarly, Bob Waldie of Opegear described his startup business as a moderately small company. At present, they do not have a lot of resources to support formal in-house training. Instead, they rely on staff to talk and share with each, to do their own professional development and to read and keep up-to-date with current knowledge in the area. They do put people through courses and conferences, but no formal training program is provided in-house.

The role of service providers in building innovation leaders

Much research has investigated the role of Government and businesses in leading innovation, but there is a lack of research on the role of service providers in enabling innovation. This issue was also raised at the IBSA Summit. Service providers include industry, unions, professional organisations, suppliers, research and educational institutions. They provide services directly to enterprises to support innovation, and may also act as intermediaries between Government and Australian enterprise.

A number of entrepreneurs interviewed highlighted the important role that Government, service providers and business leaders can play in more collaborative approaches with small businesses to drive continued innovation. For instance, Bob Waldie, CEO of Open Gear, highlighted that *"the Government's key tool is its capacity as a customer and its use of product and technology as a partner in developing innovation with small businesses and not as a tax redirector."* Others also cited the key role of service providers partnering with business in taking their ideas to market. For instance, Trevor Glen of Sarugo suggested that *"one of the things that service providers may need to do is to be more flexible in terms of how they provide services to startups and be flexible around the way they get paid. Maybe they can take equity stakes in companies to help them get started. This is how service providers can help but obviously they are taking a risk by doing that as well."*

It is widely acknowledged in the interviews with entrepreneurs and business leaders that a promising step forward is the establishment in November 2009 of the Australian Government's Industry Innovation Councils.

Composed of innovation leaders from industry, unions, professional organisations, research organisations, and government, the Councils are:

- Providing strategic advice on innovation priorities to the Minister of Innovation, Science, Industry and Research
- Championing innovation in industry
- Building connections and collaborating across Councils, innovation initiatives, and other organisations.

The Government's response to the Cutler review emphasised that the inter-relationships between Government, business leaders, and service providers must be examined and strengthened in order to facilitate innovation. Business leaders, service providers and the Government are all part of the innovation system; and it was emphasised by many of those interviewed, as noted in the Government's innovation agenda for the 21st century, that innovation systems are made stronger by strengthening the constituent parts³⁴. Consequently, it is imperative that efforts be directed toward evaluating partnerships between Government, service providers, business leaders and entrepreneurs in implementing innovation programs and initiatives.

The success of implementation of innovation initiatives is, in part, contingent upon the success of the partnerships. Service providers such as educational institutions and business consultants also can help build the capability and capacity of young entrepreneurs to grow and develop successful ventures. The Australian Anthill, for example, provides opportunities for young entrepreneurs to network with others who will provide them with the necessary support to grow their new ventures.

Hugh Guthrie of the National Centre for Vocational Education Research highlights how this body supports the diffusion of innovation in the vocational education sector through commissioned research, workshops, conferences and benchmarking exercises. Geoff Fary of the ACTU actually sees unions more as stakeholders than service providers that must maintain a position of independence. While he is very positive about the quality of leadership in Australian organisations, he believes that some business leaders fail to fully consider the significant role and value of employee engagement at the workplace level.

Lynette Mayne, of Work Wear World, describes the key role of service providers around facilitating innovation in Work Wear World:

"Service providers play a very big role in helping small business. We treat our service providers like they are part of the family. If you do this, then you can leverage their skills and expertise. For example, for us at Work Wear World, even though we're small, we have the best suppliers and we treat them like part of the family-- they give us access to all their competitive products so we were the first to put cotton behind a micromesh polo to enhance safety in work uniforms. So service providers can be a wonderful source of fostering innovation."

Table 2 summarises innovation programs provided by selected service provider organisations in Australia. As seen in Table 2, the majority of innovation programs provided by the organisations reviewed foster innovation by building capability, culture, and collaboration — with only a few programs targeting leadership development

³⁴ Australian Government Department of Innovation, Industry, Science and Research, 2009

initiatives. There a number of organisations across Australia founded by business leaders within industry who aim to promote innovation in Australia by mentoring small business owners and aspiring entrepreneurs. Organisations such as Brisbane Angels and Australian Business Community Network (ABCN) are good examples. Brisbane Angels is an organisation of business leaders who assist aspiring entrepreneurs to build their new ventures. They coach and mentor new entrepreneurs, helping them develop leadership skills for innovation and sound business principles.

David Gow of Invest Queensland has been prominent in founding and managing the Mentoring for Growth program through the Queensland Department of Employment, Economic Development and Innovation. It provides CEOs (usually the founders) with access to high level knowledge and business networks that they would not normally access. The program helps skill up entrepreneurs (companies up to \$50 million in sales turnover) through contacts with volunteer business leaders, investors and consultants. For over eleven years this award winning program has provided mentoring to over one thousand SMEs, with 125 of them raising \$135 million in angel capital. Currently there are over 100 mentors on the database for the program.

Table 2: Innovation programs in selected service providers

Source	Description of Programs and Services Provided	Innovation Enabler/s targeted
Innovic. INNOVIC is an Australian not for profit organisation and a leading provider of services to innovators, inventors, entrepreneurs and small to medium enterprises. Services provided include consulting, mentoring, training, and commercialisation support. INNOVIC helps to turn new ideas into viable products and new businesses.	<p>Next Big Thing Award: A global competition and annual award to find and showcase new inventions and innovations that have the potential to become 'the next big thing.'</p> <p>iLink: A service linking innovators and startup businesses to INNOVIC's network of i-link members. i-link assist clients with new ideas to connect with industry specialists, service providers, and business organisations with expertise in different aspects of the commercialisation process.</p> <p>Grant Match: Provides a thorough search of government grants, support programs, taxation benefits and other funding that match individual needs.</p> <p>Patent Search: Examines intellectual property databases in Australia, Europe and the U.S and provides a report detailing any existing or similar concepts.</p>	Culture Capability Collaboration
Australian Anthill. Anthill was initially launched as a business magazine specifically dedicated to innovation and entrepreneurship. Since then, Anthill has extended its services, providing a range of endeavours to support innovation and entrepreneurship in Australia, such as awards, competitions and an online community.	<p>Cool Company Awards: A program to publicly acknowledge and celebrate Australian organisations that are doing things differently to bring about positive change.</p> <p>30 under 30: A program to support young entrepreneurs and is evolving from an awards program to become Australia's only national peer-to-peer network for young business owners – including Teentrepreneurs. The aim is to foster a culture of entrepreneurship in Australia.</p> <p>Pitch Club: A supportive and fun networking event, where people with ideas, capital and skills can connect. Participants are invited into a miniature boxing ring, where they are given 90 seconds to communicate their ideas and objectives. The objective of Pitch club is to create a member driven organisation to facilitate investment in early stage ventures.</p>	Culture Collaboration Capability
Australian Innovation.	Australian Innovation Festival: A national festival with an	Culture

Source	Description of Programs and Services Provided	Innovation Enabler/s targeted
<p>Australian Innovation is a key source for up-to-date information on Australian Innovation and Entrepreneurship. They drive initiatives to increase public awareness of the importance of innovation and entrepreneurship.</p>	<p>aim to encourage and support networking and business opportunities for participants in the areas of research and development, and technology commercialisation, across all industry sectors. The Festival is a not-for-profit initiative which aims to inspire a culture of innovation in all Australians, by reinforcing our rich, innovative history and an entrepreneurial spirit, which is comparable to the best in the world.</p>	<p>Collaboration Capability</p>
<p>Australian Business Review. Australian Business Review was established in 2006 to provide business coaching and consulting services to owners and managers of small to medium enterprises.</p>	<p>Your Business Success: A Program business coaching program designed to help fix immediate business issues and work on creating profitable assets. It contains 80 case studies on DVD, 5 business coach designed manuals to help map business solutions and ongoing contact with a business coach.</p>	<p>Leadership Capability</p>
<p>Business Enterprise Centres (BEC) Not-for-profit organisation that aims to support and grow a national network of Business Enterprise Centres that provide a key point of contact for small business seeking quality business information advice and guidance.</p>	<p>For start-ups firms, they assist in providing small business forums, advice around strategic partnerships and helping members attract funding from key stakeholders. BEC staff bring their small/ micro business experience and counselling skills to reduce the high failure rate in the first 3 years of business. BEC staff complete assessments of businesses around problem areas (e.g. low sales, financial management, marketing), and work with the business owners to create plans and action steps that are monitored around evidence of improvements.</p>	<p>Capability Collaboration</p>
<p>Brisbane Angels. Brisbane Angels provides the vehicle to allow independent investors to collaborate, co-invest, share risk, increase portfolio diversification, with networking and peer validation of early stage deals.</p>	<p>Brisbane Angels' members invest their own money to provide seed and early-stage capital ranging generally from \$5K to \$250K (\$50 to \$500k as a group). Members mentor and coach entrepreneurs, serve as directors, provide industry contacts and assist with team building, strategic planning and subsequent fundraising.</p>	<p>Leadership Capability Collaboration Culture</p>
<p>Enterprise Connect. Part of the Department of Innovation, Industry, Science and Research with the role to connect business to the knowledge, tools and expertise to improve productivity, competitiveness and growth.</p>	<p>Services are delivered through a network of state-based Manufacturing Centres and five specialist Innovation Centres. They include the Creative Industries Innovation Centre based in Sydney, and Clean Energy Innovation Centre based in Newcastle. Centres are staffed by teams of highly skilled Business Advisers who deliver a customised and free Business Review. The overall aim is to help expand markets, boost local economies and create new jobs in regional Australia.</p>	<p>Capability Collaboration</p>
<p>New Enterprise Incentive Scheme (NEIS). A national network of providers under Job Services Australia in locations around Australia. NEIS providers include local organisations, such as Business Enterprise Centres, TAFE Small Business Centres, community organisations, and private sector businesses.</p>	<p>Job Services Australia has set aside specific training places under the Australian Government's Productivity Places Program for eligible job seekers who wish to establish their own small business. The NEIS provider assists in gaining access to accredited training that allows the development of a business plan. If the plan is approved, there is access to a NEIS Assistance that includes an allowance, rental assistance and business mentoring and support during the first year of business operation. If the person is assessed as highly disadvantaged or is an Indigenous Australian, NEIS provides additional mentoring and support in starting the new business.</p>	<p>Capability Collaboration</p>

Source	Description of Programs and Services Provided	Innovation Enabler/s targeted
<p>Small Business Advisory Services Program. Low cost advisory services for small businesses through AusIndustry</p>	<p>The program provides access to information and advice on issues important to sustaining and growing a small business in response to the current global financial crisis. There are 36 Business Enterprise centres across Australia funded under the program.</p>	<p>Capability Collaboration</p>
<p>InnovationXChange (IXC). A non-profit global exchange that delivers intermediary service to business and research.</p>	<p>Intermediary Service: Uses a network of creative and skilled scientists and technologists operating under strict codes of ethics and confidentiality. Provides safe access to ideas and connects to fit the strategy of a business. Also uses a proprietary step-wise disclosure process that allows people to safely approach any potential partner while retaining control over what information is revealed and when.</p>	<p>Capability Collaboration</p>
<p>Innovate SA (formerly the SA Centre for Innovation). An independent incorporated organisation that provides a range of advisory and support programs to South Australian enterprises looking to grow their business.</p>	<p>Selected services include: Process Engineering: Services to monitor, evaluate and improve organisational performance Product Development: Helps businesses create product prototypes, protect intellectual property, and prepare products for commercialisation R&D Commercialisation: Provides advice on accessing capital, new technology, and partnerships from research organisations or companies in Australia and overseas. Venture Capital SA: Helps business attract and secure investor interest.</p>	<p>Capability Culture Collaboration</p>
<p>Australian Business and Community Network (ABCN) Established in 2004 by a group of senior business leaders to provide mentoring, partnering and support programs to students and schools that would benefit the most.</p>	<p>Selected programs: Partners in Learning: Links business (CEOs and executives) and educational professionals (Principals and senior teachers) to share experiences, solve problems and explore leadership challenges. Growing Opportunities and Learning Skills (GOALS): A one-on-one mentoring partnership between high school students and volunteer business leaders that aims to widen the life choices of students considered to be at risk of disengaging from school. Technology, Enterprise, and Mathematics (TEAM): Mentoring program aimed at Year 10 students who have an interest in maths and IT subjects. The objective is to stimulate the student's interest in technology and maths through project management workshops.</p>	<p>Leadership Culture Capability Collaboration</p>
<p>Innovation and Business Skills Australia One of eleven Industry Skills Councils with a mission to build capability, professionalism and innovative capacity in Australia's workforce through sharp and focused consultation on skill needs. Core focus is on applied industry research, support resources, professional development and continuous improvement of its Training Packages.</p>	<p>Selected services include: Innovation Skills Training: A guide for trainers and assessors to foster the innovation skills of learners through professional practice Workshops: Specialist interactive professional development workshops for businesses, individuals and VET practitioners with tangible outcomes. Events: Special events which bring together leaders of enterprise innovation, tertiary sector leaders, and industry associates to explore ways to lift innovation in Australian enterprise. Online Workforce Innovation Survey Tool: allows HR managers to easily survey their staff and consider their capability for innovation.</p>	<p>Capability, Collaboration Culture Leadership</p>

Source	Description of Programs and Services Provided	Innovation Enabler/s targeted
Society of Knowledge Economics A non-profit organisation which aims to address Australia's critical need to develop more innovative, fulfilling and high performing workplaces.	Research and Partnering Program: Brings together people from across governments, academia, industry, unions and associations to investigate, research, test and develop practical programs and tools for Australian workplaces.	Culture Capability Collaboration Leadership
Business Connect. Offers business leaders and entrepreneurs an integrated package of educational knowledge-based events and online resources to increase their effectiveness and help them to build a better and more sustainable business.	Home Based Business Seminars with the Office of Small Business and Switzer Group. Small Business Expo and Money Expo 2005. A range of management seminars and workshops.	Capability Collaboration Culture
Inventium. A company that applies the science of psychology and neurology to boosting creativity and innovation.	Training programs: Creative thinking and idea generation, Facilitation skills, Decision-making skills, Idea selling, and Persuasive presentation skills. Workshops: A range of innovation workshops and projects using scientifically proven idea generation and techniques. Keynotes: Offers inspiring and educational keynote speakers for events around the world. Recruitment: Services that assist organisations in recruiting and selecting creative employees.	Culture Capability Collaboration Leadership
Swinburne University	Master of Entrepreneurship and Innovation: A program developed for people who intend to start new, innovative businesses or play a leading role in an innovative unit of an established organisation.	Capability Leadership Culture
Smart Company. A free news, information and resource site for Australian entrepreneurs, and small and medium business owners to help keep them ahead of their competition.	News, business trends and Smart Blogs: Posts daily news briefings, business trends and ideas from around the world and blogs from a network of expert bloggers; profiles the views of Australia's best business experts including exclusive features, case studies, and podcasts.	Culture Capability

There are a range of service providers across Australia that provide consulting services, training, tools and publications to support innovation in businesses. For instance, Innovix and Australian Innovation have partnered with the Australian Government to build innovation capacity in Australian enterprise. Innovix provides a consulting service called Grant Match to help Australian business and entrepreneurs find Government services (e.g., grants, tax benefits, and support programs) that address their unique business needs. Innovate SA has also partnered with universities and Government agencies in providing services that support innovation in emerging enterprises. Similarly, Australian Innovation assists with the administration of the Australian Government's innovation and venture capital programs designed to support industry innovation. They also monitor ongoing government innovation programs.

Emphasising the importance of evaluating innovation levels in organisations, IBSA, in collaboration with Australian Human Resource Institute, is in the process of developing an online Workforce Innovation Survey Tool

to enable HR managers to easily survey their staff and consider their capability for innovation. The tool covers four domains: generating ideas, risk taking, workplace relationship effectiveness, and turning ideas into products, processes and services. This tool will soon support a more targeted expenditure of workforce development solutions and allow organisations to measure whether there have been any changes in workforce capability as a result of development initiatives.

Peter Westfield of *Australian Innovation* is Co-Chair of the Australian Innovation Festival. As a service provider *Australian Innovation* promotes public awareness of the importance of innovation and entrepreneurship through an emphasis on research, development and commercialisation. Under his management is the Festival that is a not-for-profit initiative that aims to inspire a culture of innovation in all Australians by reinforcing our innovative history and an entrepreneurial spirit. He believes the Australian Innovation Festival is comparable to the best in the world.

Formal education programs provided at universities also provide an avenue for developing the capabilities of innovative leaders. For instance, Swinburne University offers a Master of Entrepreneurship and Innovation program for people who intend to start a new, innovative business or play a leading role in an innovation unit of an established organisation. Similarly, the University of Queensland Business School has a Corporate Education Program where entrepreneurs participate in a short course in Innovation Leadership or take the course as part of a larger program to obtain a Graduate Certificate in Executive Leadership. The purpose of the Innovation Leadership course is to equip managers with the skills necessary to lead innovation for sustainable competitive advantage. The course is based on international best practice in innovation leadership and presents an integrated framework from leading edge strategic management and innovation ideas to help managers lead innovation within their organisations. In addition, there is the *Enterprize* competition at the University of Queensland Business School that invites those with novel ideas or at the startup stage to prepare a business case. The short listed competitors provide a 5 minute pitch to a large public audience around their innovation. The winner takes away \$100,000 in cash to support the next stages of their innovation.

With IBSA support, the inaugural BIG (Business, Innovation, Growth) Education Directory is currently in preparation through *Australian Innovation*. The online and print publication will provide an index to all tertiary level innovation and entrepreneurship courses and qualifications available in Australia.

The role of Government in supporting innovation

Leadership is not only the responsibility of enterprise leaders, but also of Government and service providers (e.g., consultants, industry councils, and educational, research and training institutions). Professor John Foster who was a Member of the Cutler Review of the National Innovation System believes that a more dynamic innovation policy is required that is aimed at making entrepreneurial activity the hallmark of our industries, irrespective of their size. The Government cannot afford to adopt a laissez-faire approach, but rather it needs to act to secure productivity gains by creating the environment that allows entrepreneurial behaviour to flourish in

our firms today. He believes that this approach is required to position Australia for the next wave of productivity growth, and to contend with emerging challenges such as our aging population and the declining tax base³⁵.

The Society for Knowledge Economics summarises the role of Government as leaders in fostering innovative practices by³⁶:

- Promoting the vision, importance and case of building high performing workplaces
- Creating and implementing enterprise programs aimed at increasing awareness and adoption of best practice
- Collaborating with industry, government and others in research that provides better understanding and clear proof of the links between leadership, culture, and management (LCM) and innovation and productivity and fulfilment at work.
- Evolving education curriculum across all systems to reflect basic skills needed to lift LCM capabilities
- Providing exemplars, role models, and best practices
- Improving governance across all workplaces related to management of human capital and intangible issues.

Following the Cutler Review, the Government has taken strong and decisive action around providing adequate funding to lift innovation in Australian enterprise. A selection of key government programs aimed at enabling innovation are summarised in Table 3. Noteworthy initiatives implemented post-Cutler include the new Researchers in Business (RiB) Program within Enterprise Connect. The Australian Government has committed \$10 million to support the placement of researchers from universities or public research agencies into businesses to help develop and implement new ideas with commercial potential. The Government provides up to 50% of the researcher's salary costs to promote collaboration between researchers and businesses and to speed the dissemination of expertise.

Another new program launched in January 2010 is Commercialisation Australia (formerly the COMET program) – a \$196 million support initiative for home-grown innovation. Mr Doron Ben-Meir who has extensive experience in the venture capital industry and commercialisation was recently announced as the inaugural CEO. Commercialisation Australia provides a new, simplified form of assistance to researchers, entrepreneurs, and innovative firms to commercialise their ideas.

In talking to Doron Ben-Meir, he proposes that Commercialisation Australia will bring together three key elements which are unmatched by other programs to focus resources and attention on the complex task of turning good intellectual property into financially viable businesses. Firstly, financial assistance will be in the form of broadly three new products: Skills and Knowledge Grants (up to \$50,000, 20% matched by the client); Proof of Concept Grants (up to \$250,000; matched by the client); and Early Stage Commercialisation repayable grants (interest free, up to \$2 million; matched by client). These products are designed to focus on the needs of early stage businesses at different points in their development. All are milestone based.

³⁵ Foster, 2010

³⁶ Society for Knowledge Economics, 2009

Secondly, every client of Commercialisation Australia will be assigned an experienced Case Manager with diverse skills in the commercialisation process. Case Managers are either successful business builders in their own right, former senior executives or professional consultants who have hands on experience in taking intellectual property along a commercial pathway. Case Managers will provide a core component of their service delivery to help entrepreneurs focus their efforts on what really matters and, hopefully, avoid some of the mistakes that have been made by many others before them. Thirdly, in addition to the Case Managers, Business Mentors will be identified through a new database of highly experienced business people who have an interest in assisting early stage businesses from time to time in their particular areas of interest. He argues that these three elements combined will deliver a "venture catalyst" service that does far more than simply distribute financial assistance to struggling innovators - it delivers business building infrastructure and guidance right when it's most needed.

Many of the entrepreneurs interviewed spoke of the importance of winning small amounts of funds at critical times during the startup phase, and in getting to the market. Lusia Guthrie of LBT Innovations is CEO of a five year old healthcare company specialising in laboratory automation. This company has been advantaged at critical stages in its initial growth and ASX listing by R&D benefits, a Commercial Ready Grant and Export Development Grant funding. Like others interviewed, her company will be applying for the Commercialisation Australian funding around further products that provide innovative solutions around managing other microbiology problems.

Also focusing on building culture and capability for innovation, the Government plans to introduce a new R&D Tax Credit in July 2010 — a more simplified system relative to the current R&D Tax Concession scheme that provides better incentive for business to invest in research and innovation. Under the new Tax Credit scheme, firms with an annual turnover of less than \$20 million receive a tax refund of 45 per cent of their R&D spending when they file their tax return. This measure effectively doubles the standard level of support for innovative small and medium sized companies. However, it is noteworthy that while the Government programs reviewed here focus on building capability, collaboration and a culture of innovation; they do not explicitly address the issue of leadership development to facilitate innovative practices in enterprise.

Table 3. A selection of programs offered by the Australian Government to support innovation

Source	Innovation Program	Description	Innovation Enabler/s targeted
	Enterprise Connect	Australian Government initiative that provides comprehensive support to Australian small and medium sized enterprises (SMEs) to help them become more innovative, efficient and competitive. Enterprise Connect comprises two components – Manufacturing Centres and Innovation Centres. Together, they provide a	Collaboration, Capability

<p>AusIndustry is the Australian Government's principal business program delivery division in the Department of Innovation, Industry, Science and Research. They are committed to delivering business services that build on three key drivers of economic growth - innovation, investment and international competitiveness.</p>		national network of services and support for eligible SMEs to access expert, practical advice and support tailored to their individual firms.	
	Commercialisation Australia	Commercialisation Australia represents a radical new approach to commercialising promising Australian research and ideas. Formerly known as the Commonwealth Commercialisation Institute, it will provide multi-tiered assistance to talented researchers, entrepreneurs, and innovative firms take their ideas to market. It will give successful applicants access to specialist advice and services; funding of up to \$250,000 for proof of concept activities; and funding up to \$2 million for early stage commercialisation activities.	Collaboration, Culture, Capability
	R&D tax credit	From 2010-11, the Government will replace the R&D Tax Concession with a simplified R&D Tax Credit which cuts red tape and provides greater incentive for business to invest in research and innovation. The new Tax Credit will provide a 45 per cent refundable credit for firms with an annual turnover of less than \$20 million – equivalent to a Tax Concession of 150 per cent. This means that firms will receive a tax refund of 45 per cent of their R&D spending when they file their tax return.	Culture, Capability
	Innovation Investment Follow on Fund	The Australian Government's <i>Innovation Investment Follow-on Fund (IIF)</i> is a venture capital fund. It is a temporary, targeted and timely response to address the lack of capital available to the most promising innovative companies during the global financial crisis. The fund will enable these early stage companies to continue to develop and to commercialise research.	Culture, Capability
Industry Cooperative Innovation Program	The Industry Cooperative Innovation Program is a merit-based grants scheme that seeks to encourage business-to-business cooperation on innovation projects that meet strategic industry needs and enhance productivity, growth and the international competitiveness of Australian industries.	Collaboration, Culture, Capability	

The Cutler Review's *Venturous Australia* report identified the need for the creation of a National Centre for Innovation Research, responsible for high quality independent research which is strongly relevant to policy and practice. The Centre could be the Rosetta Stone for innovation in Australia that allows researchers in universities to get closer to understanding the needs and opportunities of entrepreneurs, while giving entrepreneurs access to laboratories and seminar rooms. Such a Rosetta Stone for nation-wide collaboration on innovation exists in

the United Kingdom with the Government-funded National Innovation Research Centre backed by Cambridge University and Imperial College. Other countries are also building such systems of support to boost their innovative practice.

The Australian Business Foundation backs this concept. Its Founding Chief Executive Narelle Kennedy emphasises the importance of viewing innovation as a system, and she believes that this system can be better understood through such research. She argues that seeing business innovation as a system that is continually being transformed around building sustained sources of competitive advantage is the better pathway to follow than “shining the torch on leadership, creativity and innovation alone, as this will get the wrong answers”.

In particular, the evidence-based research agenda of the Australian Business Foundation is aimed at gaining a better understanding of this business innovation system and they want to promote fresh insights that might boost the capabilities of our innovation leaders and their organisations across a wide range of industry sectors.

Lessons from other countries about building capability

Previous reports such as The Society for Knowledge Economics have already provided numerous examples of international initiatives that promote coordinated efforts across Government and business to raise workplace practices and innovation capabilities³⁷. In particular, Government led workplace development programs in Ireland and Finland are nominated as worthy of further review and consideration by the Australian Government.

No one who was interviewed believed that any single country could be nominated as the stand-out exemplar around effective Government policies around promoting the capabilities of their nations and its organisational leaders around innovation. Countries mentioned included the USA, Finland, Sweden, Ireland and Germany. However, different countries were known for promoting capabilities around innovation for specific industry sectors. For example, Singapore was cited as a good example of how to apply strategic investment in people and new technology well ahead of R&D in the water desalination and wastewater treatment industry.

At the IBSA Summit, Bernie Cullinan, CEO of Clarigen, a company based in Ireland providing comprehensive outsourced human resource solutions, emphasised the role of leadership in driving innovation in Ireland. Her company offers a Leadership Program based on four pillars: inspire, educate, coach and execute. The program focuses on building strategy, culture and leadership and in facilitating execution. Fundamental to the program is that each participant makes a commitment prior to acceptance of their development ambitions. Participants who have undergone the program report that it has led to increased capability to recognise strengths and weaknesses amongst their teams.

Bruce Bilttoft from the Siemens owned water technology company, Memcor Australia, reported how well Siemens identifies its high potential leaders. This international business then gives opportunities to these new leaders to develop their capabilities and skills sets around general management and innovation through rotations and

³⁷ Society for Knowledge Economics, 2009

development programs. His own company of Memcor Australia has used a successful sponsorship with the University of New South Wales Co-Op program to access quality chemical engineering graduates. In promoting their development, there is rotation from the R&D areas into other parts of the Memcor business.

Table 4 provides highlights from a review of innovation policies and programs implemented by OECD countries. It reveals that human capital development is at the heart of innovation initiatives in many countries, with efforts aimed at school children, university students, with skills shortages, lifelong learning and internationalisation as major drivers around enhancing human capability³⁸. However, as noted in this same OECD review, while many countries have implemented a variety of human capital programs, these are not necessarily linked to their broader national innovation goals.

Table 4. International innovation policies focusing on building capability

Country	Focus of Policy	Programs and Policies
Austria	Enhances the interests of the younger population in Science, Technology and Innovation and by encouraging them to pursue a scientific career in order to meet the challenges of the future.	A new program called "Sparkling Science" has been launched by the Federal Ministry of Science and Research. This program combines high-level research with science promotion in schools bringing together pupils and researchers in order to inspire pupils to pursue a career in science and technology. "Forschung macht Schule" (Science in Schools) offers innovative education in science and technology and gives pupils the possibility to interact with engineers already working in industry. A special focus is given to the promotion of girls and young women.
Belgium	Focuses on expanding the pool of highly trained researchers by making research more attractive, and stimulating international and inter-sectoral mobility.	A new doctoral program where basic principles will be the cooperation between doctoral students, the supervising academic institution and the enterprise, the commitment by the non-academic partner to co-fund 50% of the salary and the continuing high standard of the doctoral research. Also supporting incoming researchers with a startup project, including the development of a research group where appropriate, aimed at opening up new lines of research
Chile	Innovation strategy is structured around three pillars: business innovation; human capital for innovation; and science with strategic orientation	Lifelong learning approach to build up a coherent system of learning opportunities relevant for the economic clusters and the world of work in general; giving the generation still in school the skill foundations to enter the world of work; giving low skilled and qualified adults a 'second chance'. Overall there is up-skilling or re-skilling effort of the current active population that lacks the new workplace competencies underpinning the knowledge economy. A Competency Certification System is focused on solving the main human capital gaps and shortages that are making it difficult

³⁸ OECD Workshop on Advancing Innovation, 2008

		for the economic clusters prioritised by the National innovation Strategy to fulfil their innovative potential.
Finland	Focuses on creating a learning environment for motivating innovation on a broad basis; revising taxes and other factors that weaken Finland's attractiveness to experts; and developing management training.	Types of policies include improving mobility and the attracting experts; developing individuals and entrepreneurship e.g., including entrepreneurship, creativity, and innovation in the curricula of all stages of education; providing incentives for training and continuous learning in the working life; establishing a top level development environment for learning so as to become an international pioneer in developing teaching methods and technical tools; and supporting reforms of organisational environments to improve the quality of working life
Germany	Focuses on enhancing qualifications and motivation of the population to pursue lifelong learning.	Internationalisation strategy involving the strengthening of research cooperation with global leaders; international exploitation of innovation potentials; intensifying the cooperation with developing countries in education, research and development on a long-term basis; and a focus on modernising and enhancing education training ("Promotion via Education").

Conclusions around building capability

- Leaders are the critical decision-makers around developing capability
- The capability of leaders at all levels of the firm influences innovation
- The capability of employees is strongly linked to levels of innovation
- Since the Cutler review, the Government has made steady progress toward lifting innovation in Australian enterprises, although current initiatives do not adequately address the need to develop innovative leaders
- Research on the role of service providers in leading innovation is lacking.
- More work must be done to strengthen the partnerships between Government, service providers, and business leaders in driving innovation.

Leaders promote innovation through collaboration

Returning to Figure 1 for the final time, the focus now moves to how leaders of innovation promote collaboration that drives innovation. An entrepreneur cannot innovate alone. The positive impact of collaboration, alliances, and networks in driving innovation has been strongly supported in previous work³⁹. Collaboration encompasses connections with people and organisations outside the organisation (external collaboration), and those within the organisation (internal collaboration). However, as noted in the 2010 Australian Innovation Summary Report, the Australian innovation system consistently underperforms on most measures of collaboration and networking⁴⁰.

In particular, the leader of an organisation is responsible for forging a collaborative culture to support innovation and in managing strategic relationships between the company and its network of partners. Steve Vamos of the

³⁹Bel, 2010; Nosella, Petroni, & Verbano, 2006; Walumba et al., 2008

⁴⁰Department of Innovation, Industry, Science and Technology, 2010.

Society for Knowledge Economics emphasises the need to more fully recognise the importance of intangibles such as knowledge, relationships and the need to promote forward-looking, open-minded organisations that are committed to collaboration.

"If we accept that the world is highly networked and organisations are networked, more management time will be put into building connections between people. Leaders need to be obsessed with removing roadblocks that stop people being enabled, encouraged and from getting their jobs done. The rubber hits the road where the manager meets the employee. Leadership, culture and management practices that promote collaboration have a critical role in promoting workplace productivity and innovation."

External collaboration

The lead time for knowledge to become applicable technology and to begin to be accepted in the market is decades rather than single digit years. Truly innovative ideas do not come out of isolation. They generally originate from several disciplines, a combination of quite different technologies or a combination of ideas and inputs from customers, information technology specialists, academics and other business partners. It is claimed that Silicon Valley businesses are successful as ideas, capital and talent circulate freely. However, Valley companies have thought very carefully about the support, rewards and remuneration practices that encourage their innovators to stay. 3M, for instance, uses dual career paths where its best researchers can choose to follow a technical or a management career path with equal advancement opportunities.

Many Silicon Valley organisations are also very effective in using partnerships and alliances to develop innovations. However, there are contrasting positions about the role of partnerships and innovation. One view is that outsiders are excluded for fear of losing intellectual property. The alternative view is that innovation is best seen as a form of knowledge brokering across organisations through partnerships and networks.

In short, the bulk of evidence is that innovation requires ideas and expertise from a wide array of sources⁴¹. Protection around intellectual property can be provided by formal partnerships that outline ways and processes for sharing skills and knowledge. Also formal alliances often mean that projects are maintained despite cutbacks or global financial crises. Also deep partnerships between organisations and people from within and across businesses build trust and often produce more informal arrangements that promote more sharing of resources and knowledge. Great leaders who forge great partnerships allow the partner organisations to punch well above their weight.

Opengear is also a strong believer of collaborating with people outside the business. They are actively engaged in an open source community and Bob Waldie observes that this sort of collaboration enables the company to look at different ways of solving problems and improving products. Sharing the same view, David Kitchen, founder and CEO of Brewers Choice, a successful startup company that provides quality home brew supplies in Australia comments that:

⁴¹ Wolpert, 2002; Leifer et al., 2000; Callan & Ashworth, 2004

“Collaboration is something that we strive hard to do as a business. If you have companies working together as a business, even if they may seem to be competitors, I think collaboration can be really important because you can bring different things to the table -- like the service providers who provide their services to the startup business for an equity stake -- at the end of the day they are collaborating to take that idea to market . So collaboration, and making it easy for companies to work together, is an important factor.”

Innovation organisations also use partnerships and alliances to get to know new talent that might be attracted into the business. Employees are entrusted with details of new concepts and share this information among others inside and outside the organisation in the hope of finding appropriate partners⁴². Many companies today use partnerships with their customers for feedback on their performance kits, new materials and prototypes. Customer feedback also is gained by internet sites that provide an opportunity for innovation exchanges between customers, buyers, suppliers and others. Sites welcome outside interest and are designed to attract buyers and sellers of new technologies, services and products, all of whom might add value to the emerging idea.

In a study of Australian industry partnerships, industry reported a strong preference for longer-term partnerships⁴³. Building and demonstrating trust is critical to the success of partnerships around innovation. As partnership development requires a great investment in time, industry is reluctant to spend too much time chasing a new partner when a good partner is already working with them. Also a key component to effective partnering is having leaders of innovation and others who have strong capabilities in initiating and managing the stages of partnerships. Also they note that it is important to avoid creating ‘heroes’ on whom the success of the whole partnership might rest. One solution is to recruit others who work with these partnership managers and who, in time, can successfully replace them.

Internal collaboration

Leaders of innovation need capabilities in building teams and teamwork. We know that innovation is a collective act that often occurs through relationships between members of a work team, as well as with others. Teams are a major tool for promoting learning and innovation. A climate in a work team that supports creativity helps team members to feel more comfortable in taking risks, to try new things and to exchange information more freely⁴⁴. Significantly, team support for innovation predicts greater levels of innovation, as well as more novelty and a greater number of innovations. Lynnette Mayne talks about the importance of teamwork and collaboration in contributing to the success of Lend Lease Corporation:

“When I was the CEO of Financial Services at Lend Lease, we had a number of different companies within the business. I challenged them to come up with ideas to improve the business. They came up with amazing ideas and we told them to select the top three ideas they came up with and to take control of putting these ideas into action. We did that over a period of time. Collaborative teams would come together and make total business changes that significantly improved the business.”

⁴² Leifer et al., 2000; Wolpert, 2002

⁴³ Callan & Ashworth, 2004

⁴⁴ Shalley & Gilson, 2004

Teams come in many forms, and each form has its merits around promoting innovation. The cross-functional team enables relationships to be strengthened between functions, while still allowing room for individual expertise to become apparent. Kodak's development of the disposable camera and Volvo's culture of innovations around safety and design are cited as benefits from integrating functions across a company. It is also known that learning is much more successful if it is communicated through small project teams rather than through a company-wide approach.

For instance, talking about the value of teams in driving business growth of Keystone Medical, Nick Wilkinson commented that:

"Keystone has done very well because our team and shareholder register is exceptional for such a small company. Our shareholders include Newcastle University commercialisation arm, a professor of physics as the director, two other medical device owners as directors, and the owner and CEO of a company that turned over 500 million a year as the other two directors. The better quality the team, the more doors open, the more confidence it gives you, and the more confidence it gives people to try your product."

In promoting innovation cultures, communities of practice are group processes where members can choose to work together because of a shared expertise and passion for a joint enterprise. These self-selected, collaborative work groups usually form in response to an issue or shared problem that requires an innovative solution. Research reveals that effective communities of practice are not easy to build or sustain, and are often difficult for management to regulate. However, they are another mechanism found to be used to promote innovation through getting people to collaborate and to share experiences around issues in free-flowing creative ways that foster new approaches to various problems and challenges.

Innovation labs are also being used as a tool that promotes teamwork and to teach innovation⁴⁵. Experimentation is encouraged through a relaxation of departmental and central agency controls. Labs can last for a few days only to provide an environment for rule busting ideas, while attendees are encouraged to learn from radical innovations outside their industry. As well, employees are coached in developing low-cost, low-risk ways of testing their ideas. Finally, the best ideas are presented to a venture board for possible funding.

Jaegopal Hutapea, a successful serial entrepreneur, Angel investor, and founder of multiple companies focusing on renewable energy sources in Australia and Asia talks about the key role of teamwork and collaboration in enabling Australian startup companies to fully utilise the capability in their organisations:

"Australia is known as a country of inventors, so what does this mean? The education is there, the individual capability is there. But it does not necessarily have the group capabilities. You have to remember, if you go outside, just like when you go out to the soccer field, you might have one go-getter, one good player—but if there is no other player to kick you the ball, you will never kick the ball or make a goal. The same applies to innovation. You may have a good inventor but you also need good finance people, and good marketing people, good production people and good distributors. So you have to set all this up and become one unit—so it becomes a good symphony—everyone plays their own tune."

⁴⁵ Abramson & Littman, 2002

Identification with the team is about the sense of belonging to the team and experiencing the team's successes and failures as one's own. When team members are highly identified with their team, they experience the collective's interests as their own self-interest. This identification with the team drives higher levels of effort by team members, even well outside what is expected⁴⁶. It is the old adage: "ordinary people doing extraordinary things". Highly identified individuals are more willing to limit their own personal gain for the good of the team. Higher levels of identification promote more positive perceptions of the team and increase team members' motivation and willingness to cooperate with others. This sense of identity also promotes agreed ways of behaving and values that support innovation, such as for example, trying to be good communicators with other team members and to be more collaborative.

Again, the leader of teams plays a critical role. Strong leadership increases the salience of identifying with the team, and in being team players. In fact, team members who most identify with their team leader, and with the team, are more willing to act more consistently in ways to achieve the team's objectives⁴⁷. In particular, the evidence shows that more transformational leaders encourage innovation not only directly, but also through their effects in promoting processes that build team identity and team climate⁴⁸.

In summary, having a more transformational team leader encourages those in the team to more fully identify with their team, and in turn, to be more engaged around outcomes around higher levels of innovation and performance. As mentioned previously, there is a strong case for organisations to promote more transformational styles of leadership as they foster individuals' identification with the team around achieving more innovative outcomes⁴⁹.

Conclusions around building collaboration

- Collaboration, alliances, and networks drive innovation
- Because innovation requires ideas and expertise from a wide array of sources, leaders of innovation must be skilled in building supportive team climate and teamwork
- Team support for innovation predicts greater levels of innovation, as well as more novelty and a greater number of innovations
- Team members, who most identify with their team leader, and with their team, are more willing to act more consistently in ways that achieve objectives around innovation.

⁴⁶ van Knippenberg, van Knippenberg, De Cremer, & Hogg, 2004; Riketta & Nienaber, 2007

⁴⁷ Walumbwa et al., 2008

⁴⁸ Eisenbeiss et al., 2008; Jung et al., 2003; van Knippenberg et al., 2004; Paulsen, Maldonado, Callan and Ayoko, 2009

⁴⁹ Riketta & Nienaber, 2007; van Knippenberg et al., 2004

Section 2:

Leadership, culture, capability and collaboration in startup firms

Organisational attributes change over different stages of a firm's existence and different management practices are needed at different stages⁵⁰. The organisational life cycle is usually divided into five stages: startup, growth, maturity, decline and death (or revival). Each stage has a unique growth challenge. In particular, the startup phase is characterised by growth through innovation, and a key challenge identified across many studies is a crisis of leadership.

There was a consensus among those interviewed that innovation is a key priority in startup firms and the type and quality of leadership adopted by the firm can make or break the new venture. The Society for Knowledge Economics would like to take this discussion to another level. Steve Vamos has called for a National Workplace Leadership Institute that would serve to assist startups, and to place leadership and innovation more on our national agenda.

For example, John Mactaggart of Technology One Ltd, and member of the board of directors of World Business Angels, observes that early on companies need to be more innovative. He warns that as the business grows, companies can rest on their laurels and begin to think that there is no need to innovate further. Effective leadership plays a key role in driving the levels of focus upon the innovation activity more consistently across all stages in these emerging enterprises. Yazz Krishna, Founder and Managing Director of Five Faces, an innovative startup company in specialising in digital signage, acknowledges the importance of leadership in the startup stage. He comments that "a business cannot go far without good leadership; leaders bring people together and provide the direction of the business."

Similarly, Trevor Glen of Sarugo believes that both internal and external leadership is important for the emerging enterprise:

"Leadership is really important; you need internal leadership from within the company to drive the direction and to make sure you're going in the right direction. You also need leaders within the community who you can aspire to. I think celebrating the successes of people who have come from similar backgrounds, who have started a company and made it a success, and who are now doing really well for themselves, is important. We need to make sure that those people are identified and paraded so people can say "Yes I can do it. There are people out there who have done it".

Studies investigating the impact of leadership in newer small enterprises show that ⁵¹:

- human capital is the more important resource in the early than later stages of growth, but early stage firms often lack these resources

⁵⁰ Quin & Cameron, 1983

⁵¹ Nosella, Petroni & Verbano, 2006; Koberg, Ulenbruck & Sarason, 1996; Quinn and Cameron, 1983.

- stable leadership and management's commitment to leading the firm help it grow overtime and play a key role in developing and consolidating capabilities within the firm that in turn drive the capacity for innovation
- the survival of startup firms is determined by the strength and quality of relationships established with external partners.

Entrepreneurship, risk and innovation

In exploring the topic of risk, we began by talking to three people who have a long history in industries that must manage risk well. Captain David Coates emphasised how the airline industry in Australia and elsewhere has moved very much towards managing risk by building more open two-way partnerships with other airlines and with their civil aviation authorities. In Australia, these increased levels of collaboration have included adopting principles around the learning organisation, especially in the training and supports for pilots in making critical decisions around safety.

Thiess is a large Australian construction company that manages billion dollar high risk projects that currently include the high profile desalination plant in Victoria. Nev Power, the CEO of its Australian operations, reports that the business has sophisticated risk mitigation processes and systems, and in particular, an organisational culture that has at its core, values focused upon safety, innovation and performance. Continued innovation at Thiess is a response to "having lots of problems that require clever solutions that cement the competitive advantage and edge for the business". These solutions are gained through managing risk through a wide range of strategies that include collaborations with technical experts, partnerships with local and international firms, actively recruiting people with knowledge and capability around partnerships, innovation and risk management, and by R&D activities that have accessed the Government's tax incentive scheme.

Finally, Allan McPherson, CEO of the McPherson Group and a business entrepreneur who provides financial management services to high net worth clients, many of whom are successful entrepreneurs. His role is to talk through with his clients the range and level of risks around their investment decisions, attempting to anchor clients' thinking around what he believes is a more accurate assessment of the real risks and more probable returns given the history of such investments. As these three examples reveal, appropriate risk management often starts with promoting thinking where people explore, research and then put in place appropriate ways for managing identified risks.

For the entrepreneurs interviewed, beginning a new venture and an emerging business is at once exciting, challenging and risky. At the same time, many of the entrepreneurs interviewed believed that with hindsight, their risks around the startup phase and early stages were not managed well. Many believed that they only recognised the up-side, and there was little risk mitigation. However, as their ideas moved to stages around raising funding and commercialisation, more contact with industry associations, mentoring schemes, potential

investors, business angels and applications for Government funding drove stronger efforts to build processes and systems for managing cash, people, credit and suppliers, just to name a few of the areas cited.

Studies also show that entrepreneurs face a larger number of different types of risk than do non-entrepreneurs⁵². In an attempt to describe the risk taking activity of entrepreneurs, researchers Thomas Monroy and Robert Folger developed a typology of entrepreneurial styles⁵³. They found that not all entrepreneurs are driven by financial gain. Not every person who founds a new business enterprise does so by seeking to minimise financial risk and to maximise financial return. People who successfully innovate and start businesses come in all shapes and sizes. However, they do have a few things others do not. In the deepest sense, they are willing to accept risk for what they believe in. They have the ability to cope with a professional life riddled by ambiguity, and a consistent lack of clarity. Most have a drive to put their imprint on whatever they are creating. And while unbridled ego can be a destructive thing, it is difficult to find an entrepreneur whose ego isn't wrapped up in the enterprise.

In summary, what are the risks?

Financial risk - in most new ventures the individual puts a significant portion of their savings or other resources at stake. Many people in our society are unwilling to risk their savings, house, property and salary to start a new business. Most entrepreneurs have to carry considerable debt in order to pursue development, marketing and promotional campaigns. Overall, the entrepreneur is forced to live and to endure enormous capital requirements. The majority of entrepreneurs interviewed cited financial risk as the biggest risk encountered in early phases of their business.

As David Kitchen, Founder of Brewers Choice notes, when starting up a business, "the risk of losing everything is significant." Financial strain is heightened among young entrepreneurs embarking on their first business like Yazz Krishna, Managing Director of Five Faces. Krishna highlights that the financial risk and difficulties faced by young entrepreneurs are compounded because they are not yet financially stable. Even for seasoned entrepreneurs like John Mactaggart of the World Business Angels Association, managing cashflow and looking for sources of funding remains as one of the biggest risks.

Mactaggart states that "finding funding is exceptionally hard. Finding funding and finding a customer for a product are two totally different things and it is difficult for the entrepreneur to swap from selling a product to selling a business." For Trevor Glen, CEO of Sarugo, the ability of a business to secure funding early in their venture is both the greatest risk and the greatest necessity in sustaining the growth of a new business:

"One of the risks around innovation is whether you can get the funding to start the business, whether you can put it up yourself or get external funding. Probably the biggest risk is that you won't get that funding and you won't be able to launch your product. I think funding still remains to be a big issue, and a lot of Australians still seem reluctant to invest in early stage business."

⁵² Allen, 1999; Dollinger, 1995; Naffziger, 1995

⁵³ Monroy & Folger, 1993

They want to wait and see if they get a run from the board first which is understandable, but that means a lot of these businesses don't make it as far as they could because they don't get that support early on."

Time risks - taking a similar perspective on the financial risks encountered by new enterprise, Nick Wilkinson of Keystone Medical asserts that the biggest risk that any startup or entrepreneur faces is wasting time due to lack of funding to achieve key business priorities:

"You're wasting time if you haven't done the work and the market doesn't want your product or you're wasting time because you don't have the money to employ people you wish to employ. Therefore you take longer to get to a certain point than you would otherwise. It all comes back to wasting time and in a business wasting time means a lack of money, and it's also the time you can't get back."

The majority of early stage entrepreneurs interviewed reported that they took on multiple roles in their business including managing the business, investor relations, sales and marketing, accounting, and product development. As such, many of these new entrepreneurs were overburdened with numerous responsibilities and felt underfunded and under-supported.

Career and personal risks - while some of the most common entrepreneurial goals are independence, wealth, and work satisfaction, those who achieve these goals often pay a high price. A question frequently raised by would-be entrepreneurs is whether they will be able to find a job or go back to their old job if their venture should fail. This is a major concern to managers who have a secure organisational job with a high salary and a good benefit package. This is clearly a risk that is faced by unsuccessful entrepreneurs.

Researchers have labelled as "entrepreneurial stress" the back problems, indigestion, insomnia and headaches that can be reported by busy entrepreneurs. To achieve their goals, however, our entrepreneurs were willing to tolerate these effects of stress. The rewards justified the costs.

Lusia Guthrie who has successfully launched several biotechnology startups, notes that the demands of leading startups can have a large impact upon the personal life of the entrepreneur. She believes that leaders of innovation need to have capabilities that reveal resilience, flexibility, openness to learning and a willingness to build a team of people with different but overlapping skills sets. In a similar vein, David Kitchen raises the significant personal costs tied up to starting up a business:

"If your business does not go as you planned from day one, the toll on you is very substantial and there is difficulty separating your work problems from your personal life. Facing hard times in the business can have a negative effect on the family so there is a risk to that. There are a substantial amount of costs in the early stages. You lose a vast amount of your freedom if you aren't able to liberate yourself from the day-to-day tasks involved in setting up a business."

Barriers to entry - this issue includes the need to grapple with proprietary technology, products and processes. Where established firms hold patents on products and processes that the new venture requires, they have the ability to either keep the new venture out of the industry or to make it very expensive to enter. Most favorable location is another form of proprietary barrier. Established firms, being further along on the learning and

experience curve, are probably more cost efficient in their operations-- something that will take time for the new venture to achieve. These proprietary factors are all substantial barriers to entry for a new venture.

Jaeopal Hutapea from World Energy Technology talks about intellectual property risks faced by new enterprises and what startups can do to manage this risk:

"During the innovation process, one risk is to be copied by other people. How do you minimise this risk? One is to protect yourself with the very costly patent right but in order to do this you have to have a large sum of money. The second is to not worry about the risk, to go to the market, produce it at a very competitive price so then the others will not need to copy but will be willing to work together with you like a distributor or sales representative –because for sure they know that your product is very competitive so there is no point to copy."

Winning over and keeping customers - new entrants to an industry face products and services that have well-established brand loyalty and loyal customers. The new venture typically has to consider extensive and expensive marketing campaigns focused on making the customer aware of the benefits of the new venture's products. The cost of undertaking this strategy can be a significant barrier to entry unless customers are dissatisfied with the competing brands. Howard Buckley of Sungrid puts this as: "the successful and continued disposition of the idea into the market".

An added dilemma is the psychology of the consumer. As a new entrant into an industry, the entrepreneur needs to spend considerable time and money convincing customers that their product is worth switching to. There is a high level of uncertainty about the likelihood of such campaigns being successful. In addition, the new venture must persuade established distribution channel members to accept the new product or service and must prove that it will be beneficial to distributors to do so. This persuasion process can be costly for the new venture.

Dealing with Governments - many industries have a high degree of government regulation which can create further pressures. Governments can prevent a new venture from entering an industry through strict licensing requirements and by limiting access to raw materials through laws or high taxes and to certain locations via zoning restrictions. There are often very high costs and considerable time delays and lobbying that are required by the entrepreneur to meet these regulation requirements. David Kitchen of Brewers Choice reports that stringent liquor licensing regulations and signage restrictions have imposed some barriers to expansion and marketing of his business. Howard Buckley and Luisa Guthrie raise similar regulatory challenges in the solar technology and biotechnology industries, respectively.

A lack of community support for entrepreneurship - reports from the Karpin Inquiry found that Australians have overwhelmingly negative opinions about small business and entrepreneurship. Negative comments made up 84% of responses⁵⁴. Running or owning a small business is not an attractive picture to the Australian public.

A variety of negatives were cited by the Australian public when asked in the Karpin Report to think about going into small business. These responses highlighted dealing with long hours, competition, lack of finance/capital,

⁵⁴ Karpin, 1995

Government regulations, having sole responsibility for decisions and the fear of going bankrupt. Also Australian parents do not want their children to go into small business and to engage in entrepreneurial activities. Parents view the lifestyle as too hard, too much pressure on family life and lacking job security.

Dr David Wyatt has successfully taken to market a number of startups, including the startup PanBio that became one of Australia's fastest growing businesses in the 1990's. Now working with the recently ASX listed Papyrus Australia, he believes that Australia still has a "cultural problem with business failure" as he labels it, where we tend to blame the Government, or Government blames the entrepreneur, for failed new business ventures. Trevor Glen of Sarugo expands on this issue by stating that:

"Some people within our own families might have been a little reluctant to support us because they are scared of the whole idea of a startup or entrepreneurship. There is a pretty negative idea in Australia about starting your own business. I think most people are scared of it and that is not a good thing. This is an Australian cultural heritage that has been ingrained in us. I think it is changing but I still experience it today, so this is something that needs to change"

However, there are efforts to change the mind set of children and their parents. Dr Alan Finkel of Better Place Australia speaks passionately about the DEEWR funded initiative that he is championing to encourage more school-aged children to be engaged in science, and to create attitudinal change in our children. This STELR Project (Science and Technology Education Leveraging Relevance') is a national secondary school science education initiative of the Australian Academy of Technological Sciences and Engineering (ATSE). The program is now running in over 200 Australian schools, promoting interest among school children in taking up careers in the enabling sciences such as biology, physics, chemistry and mathematics. Children focus their attention upon how science can be used to respond to key social issues such as better responses to global warming around the innovative applications of renewable energies. Interestingly, as noted in Table 4, Austria has a Science In Schools initiative with similar goals.

Financial and other supports around managing risk

Reflecting on the sources of support that have helped their businesses grow, entrepreneurs interviewed identified that the following programs and services played a key role in supporting the early phases of their ventures:

- Local government programs like the NSW government's Tech Voucher program. Nick Wilkinson from Keystone reports that through the Tech Voucher program, Keystone received a grant that allowed them to engage a university to do product testing on their behalf or solve an idea or business challenge they had. Instead of handing out cash, this program facilitates ways of solving problems in an emerging business. When innovating or collaborating with partners outside Australia, Jaegopal Hutapea adds that local governments in other countries play a key role in helping the entrepreneur understand local business practices, legislation, culture and "do's and don'ts of the local business culture"
- Federal government grants and the new range of programs from COMET and Commercialisation Australia. A large number of our entrepreneurs reported that these programs helped them recognise if they actually have a business (at the first stage) and to provide them with growth capital to do so
- Business angel investors and mentoring. There was a strong consensus among those interviewed that having a vibrant angel community to support them financially and to provide mentoring around building capabilities around leadership and innovation were an essential source of support in developing their

business. COMET was very positively regarded around its value in supporting payment towards establishing access to an experienced business mentor.

- Organisations supporting innovation. Trevor Glen from the Adelaide-based startup Sarugo cited the invaluable support received from quasi-government organisations such as Innovate SA:

"We have some great support in South Australia with Innovate SA. They are a quasi Government department that is predominantly funded through the State Government here. They provide support to startup companies to educate them and ensure they are receiving the advice that they need. The training that Sarugo and Memory Box (a product spinoff from Sarugo) have received through that program has probably made a difference between us being here and not. We learned even simple things like cash flow management that we understood in principle but not as much in practice -- training courses like that are really important."

Yazz Krishna from the Brisbane-based startup Five Faces reports that the organisation iLab Incubators helped drive the growth of his business. iLab is a company based in Queensland that aims to nurture startup technology business through the delivery of a range of services for a 2-year period. Five Faces received a variety of support from iLab including skills training courses, virtual office support, mentoring from a panel of business advisors and assistance with raising capital to grow the business. The mentoring received from the panel of business advisors was particularly important in helping the business make key decisions to facilitate growth.

Hew McDonald has gained considerable support and flow-on benefits through media awards and competitions that have profiled his invention of an elevating platform for mechanics. He was successful in winning a section of the ABC New Inventors program. In addition, he was runner up in the Northern Territory Innovation Awards, and a finalist in the awards for a national magazine. These successes gave his invention both credibility and visibility, and he was able to leverage off these awards in follow-up contacts with companies interested in his elevating platform. Within this mix of support was success also in winning a COMET grant.

Supporting entrepreneurs: Strategies and recommendations

Given the many challenges that entrepreneurs face when building their new ventures, it is important to develop and implement strategies to support younger entrepreneurs and their new enterprises. The three drivers of innovation introduced earlier—capability, collaboration, and culture—can be used by leaders and others as a guiding framework for devising strategies to encourage and support entrepreneurship in Australia. These strategies should revolve around providing younger entrepreneurs access to a range of resources and information and the development of new structures of support that are culturally embedded⁵⁵. Examples are presented in Table 5 that reflect upon the key themes in this report around how leaders of innovation play vital roles in building capability, collaboration and business cultures.

⁵⁵ Nasser, du Preez & Herrmann, 2003

Table 5. Recommended strategies to promote entrepreneurship

Strategies to build capability	Strategies to promote collaboration	Strategies to build an entrepreneurial culture
<p>Access to pools of knowledge regarding opportunities in particular markets</p> <p>Access to expertise to explore these particular opportunities</p> <p>Access to appropriate sources of business development training</p> <p>Ongoing support in the form of knowledge and expertise to ensure the growth of the business beyond initial incubation and early survival.</p> <p>Mentoring with the support of other successful business people to ensure that young entrepreneurs learn by experience and develop sound business principles</p>	<p>The development of strategic alliances to ensure the sustainability of young enterprises</p> <p>Access to markets through a network of marketing brokers</p> <p>Creating mechanisms to link entrepreneurs to people and resources that facilitate business growth</p> <p>Organising regular networking events for young entrepreneurs to meet and connect with senior business leaders</p> <p>Creating virtual communities of support for entrepreneurs to share experiences, advice, contacts, and knowledge, particularly for those in remote areas</p>	<p>Access to simple capital formation in order to startup a new venture</p> <p>Positive social recognition by society at large for this new form of entrepreneurial success</p> <p>Appropriate trade, investment, and tax policies to promote the ongoing sustainability of entrepreneurs as the new source of wealth and job creation in the economy</p> <p>Regulatory frameworks and legislation which enable business success rather than stifle entrepreneurial creativity</p>

As the strategies listed in this Table suggest, business leaders, Government and service providers all have a role in supporting new entrepreneurs and entrepreneurial activity. For instance, Government plays a key role in creating an entrepreneurial culture by providing the necessary regulatory environment to enable rather than inhibit business success.

In recognition of this fact, the Australian Government has recently launched a set of programs specifically catering to the needs of small business:

- **Small Business Online:** A program aimed at equipping small businesses with the skill and know-how to improve their web facilities and e-commerce capabilities. Support provided during the two-year life of the initiative will include training seminars on e-business, advice on establishing an online presence and the development of other e-business resources.
- **Small Business Support Line:** As part of the 2009-10 Budget, the Government announced funding of \$10 million over two years to establish a unique free support line and referral service dedicated to small business. The service commenced in September 2009, and offers initial advice to small business owners and takes a whole of Government approach to assist them improve their sustainability and foster better business management practices through the global recession.
- **Small Business Tax Break:** For eligible assets acquired between 13 December 2008 and 31 December 2009, and installed by 31 December 2010, small businesses are able to claim a bonus tax deduction of 50 per cent of their cost. This Small Business Tax Break represents an increase from the previous rate of 30 per cent and provides greater incentive for investment in new capital items, such as computer hardware and business vehicles, and capital improvements to existing machinery and equipment.

In addition, given the many risks encountered by entrepreneurs in their startup ventures, an important question of interest is what sources of support can help new entrepreneurs effectively manage risk? We put this question to the entrepreneurs we interviewed and they came up with the following recommendations:

- Educate the Angel community to communicate better about the types of investments and risks that they will make. By doing this it was believed that entrepreneurs can find out more quickly and easily if they will get funding or not
- Educate startup companies to make sure they are aware of what to do to get funding and to manage risks through more workshops, better web sites and more promotion through service providers
- Government programs like the COMET program have helped many entrepreneurs manage the financial risks in their early stages. Hugo Le Messurier of LeMessurier Solutions has acted as a COMET business adviser in South Australia. He has brought to this role experience as an entrepreneurial leader a proven track record in successfully managing startup companies. He believes that COMET funding has allowed those in startups to access business leaders in entrepreneurship and innovation that they could not otherwise have afforded. He supports the matched-funding models like those of COMET as “you must have some skin in the game”
- More Government programs that model USA examples of dedicated initiatives that accept higher risk, such as its Small Business Innovation Research (SBIR) funding managed by the National Institute of Standards and Technology (NIST). Dr Alan Finkel of Better Place Australia gave this example, where SBIR Programs do not fund projects that have already established a proof-of-concept
- Continued mentoring support from business leaders who have a proven track record of business success and who have done it all before. Their role is seen as critical around alerting innovation leaders to the knowledge and skills sets required to be successful in managing risk. This is particularly important for startups and the Government should support more mentoring programs. A number of those interviewed suggested that programs like this must continue and more funding should be allocated to startups. The Government must also be more consistent in the services and programs they provide. For instance, many individuals were bemused about the way COMET is being replaced with Commercialisation Australia and the lack of program support during the change-over
- Ensure that the Government understands the risks faced by small business so that they can be in a better position to assist startups in managing these risks
- Service providers have a key role to inform and provide forums for those in startup companies to learn about the better management of risks.

The development of an industry charter

An idea put forth at the Enterprise Innovation Summit was the possible development of an industry charter on Innovation and Leadership with a view to fostering more innovation in Australian enterprises. In talking to entrepreneurs about this idea, the general consensus was that an industry charter for innovation would not be a useful approach to lift innovation in Australia. Rather some believed that a charter might take the focus away from where innovation occurs on the ground. Others experienced with charters had not seen them operate successfully at the enterprise level.

Individuals would rather see the investment put into better worked exemplars, cases studies and more shared learning resources that reflect the needs of those working in leadership roles who are looking at better ways to promote innovative thinking, cultures and capabilities in their businesses. They would especially like to see time and energy put into local initiatives that successfully bring entrepreneurs together, citing the value provided already by their local networking groups like First Tuesday Clubs, Founders Forums, and similarly named local

initiatives. Such forums aim to meet the needs of those still working “at the ground floor of innovation” in getting their innovation to market.

The small number of those who thought it could potentially be useful to provide a charter had the following ideas about what an industry charter on innovation might look like:

- The aim of the charter would be to have Australia as the leader in innovative cultures and employee ownership. Thus one objective would be to create a small business culture in Australia, second-to-none, internationally
- A charter could enunciate what is meant by innovation. The charter could be organised around a key set of principles and key themes that would be further described in the document. It could describe Government and other sources to enable innovation linked to the stage in the innovation cycle
- The objectives of the charter should be to foster innovation and to give a framework for people to engage in innovation by better assessing the existing potential for innovation in their business
- The charter could support some “bid ideas” around better supporting the leaders of innovation
- The charter could reflect upon the best ideas for models in Singapore, USA, France, Ireland and other countries that are providing investment in the ideas of entrepreneurs in order to successfully get them to market.

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